

REMARKS

This Amendment is responsive to the February 7, 2008 Office Action. In the Office Action, claims 1-8 stand rejected. In response, claim 1 has been amended with clarifying language in accordance with the originally filed specification. Claims 2, 3, 5, and 6 have been cancelled. New claim 15 has been added. Claims 1, 4, and 7-15 are now pending in this application, and claims 9-14 have been withdrawn.

Claim Rejections Under 35 U.S.C. §103(a)

Claims 1-8 stand rejected under 35 U.S.C. §103(a) as being obvious over United States Patent No. 6,071,597 to Yang et al. in view of United States Patent Application Publication No. 2005/0003673 to Mahdavi and United States Patent No. 5,044,073 to Ogasawara et al. In view of the foregoing amendments and the following remarks, reconsideration of these rejections is respectfully requested.

The present invention, as defined by amended claim 1, is directed to a process for manufacturing a printed wiring board by a subtractive method. The process comprises preparing a laminated film comprising a polyimide film and a copper layer provided on at least one surface of the polyimide film with a sputtered metal layer formed from nickel, chrome or an alloy thereof in between, selectively etching the copper layer and the sputtered metal layer of the laminated film to produce a wiring pattern, treating the laminated film with a first treatment liquid capable of dissolving nickel of the sputtered metal layer, and treating with a second treatment liquid capable of dissolving chrome of the sputtered metal layer and also capable of eliminating the sputtered metal layer in the polyimide film to remove a superficial surface of the insulating film exposed from the wiring pattern together with the residual sputtered metals in the superficial surface.

Thus, as discussed in the pending application at, for example, page 19, lines 14-21, the present invention has an advantageous effect such that even when the metal of the base metal layer is present in the surface by chemically combining with a component of the insulating film, the metal is removed together with the surface of the insulating film. Therefore, the surface of the insulating film without the wiring pattern does not contain any residual metal. Accordingly, the insulating film surface without the wiring pattern can attain

its inherent high insulating properties.

None of the cited references teaches or suggests the process for manufacturing a printed wiring board as defined by amended claim 1 and having the advantages as described hereinabove.

The Yang patent discloses an additive method for making a flexible circuit or carrier (5) (see column 16, line 20). The additive method of Yang has a feature of making a seed layer by sputtering first, laminating a photoresist, exposing the photoresist to ultraviolet light or the like, developing the photoresist, and then plating copper to a desired circuit thickness in accordance with the crosslinked photoresist having desired patterns (see column 16, lines 20-49). The additive method disclosed in Yang is quite different than the subtractive method clearly described in the claims of the present application. Further, the technical problems associated with a subtractive method for manufacturing a printed wiring board are quite different from those of an additive method.

The Mahdavi publication and the Ogasawara patent fail to overcome the deficiencies of the Yang patent. The Mahdavi publication discloses a process for forming a thin film resistor having a NiCr or NiCrAl resistor material layer through the use of a subtractive method. The Ogasawara patent discloses a process for manufacturing a printed wiring board having printed conductors which are formed by only plating and etching, namely by a subtractive method. Thus, modifying the process of Yang with the teachings of Mahdavi and Ogaswara seeks to combine two contradictory methods, *i.e.*, an additive method combined with a subtractive method. Therefore, the combination of Yang, Mahdavi, and Ogaswara fails to teach or suggest the process for manufacturing a printed wiring board of the present invention as defined by amended claim 1.

Further, claims 1, 4, and 7-8 depend from and add further limitations to independent claim 1. Thus, claims 1, 4, and 7-8 are deemed to be in condition for allowance for all of the reasons set forth hereinabove.

New Claim

New claim 15 has been added. Support for new claim 15 can be found, for example, at page 17, lines 2-9 and page 17, line 22 to page 18, line 9 of the originally-filed

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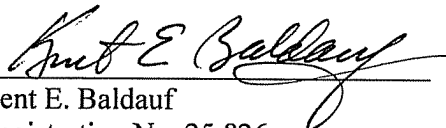
specification. Applicants respectfully submit that none of the cited references teaches or suggests the features of dependent claim 15. Further, claim 15 depends from and adds further limitations to independent claim 1. Thus, claim 15 is deemed to be in condition for allowance for all of the reasons set forth hereinabove.

Conclusion

In view of the foregoing amendments and comments, Applicants respectfully request reconsideration of the rejections of claims 1, 4, and 7-8 and allowance of pending claims 1, 4, 7-8 and 15.

Should the Examiner have any questions regarding this information or wish to discuss this matter in further detail to advance prosecution, the Examiner is invited to contact Applicants' undersigned representative by telephone at the number provided below.

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